

June 28, 2006

VIA ECFS

Marlene H. Dortch, Esq.
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554
ATTN: Video Services Division

Note: Exempt From Filing Fees

Re: **Request for Waiver of July 1, 2006 DTV Replication/Maximization Deadline**
Noncommercial Educational Station KWSU-DT, Pullman, WA
Facility ID: 71024 / FRN: 0001563949
MB Docket No. 03-15

Dear Ms. Dortch:

On behalf of Washington State University ("WSU"), licensee of noncommercial educational television station KWSU-TV, Pullman, Washington, and pursuant to the FCC Public Notice in DA 06-1255, *DTV Channel Election Issues – Compliance with the July 1 Replication/Maximization Interference Protection Deadline* (June 14, 2006), we hereby request a waiver of the station's July 1, 2006 DTV replication requirements.

In the *Second DTV Periodic Review Report and Order*,¹ the Commission adopted a July 1, 2006 replication/maximization protection deadline for noncommercial DTV licensees. The Commission stated that, in cases where a station was unable to meet the applicable deadline due to "circumstances beyond a station's control," it would "grant extensions of the applicable replication or maximization interference protection deadline on a six-month basis if good cause is shown."²

WSU certified that it would operate post-transition "replication" facilities for KWSU-DT in its November, 2004 Pre-Election Certification. See FCC File No. BCERET-20041105AFT. Pursuant to a tentative FCC channel designation, WSU will use KWSU's current NTSC Channel

¹ Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, *Report and Order*, 19 FCC Rcd 18279 (rel. Sept. 7, 2004) ("*Report and Order*").

² *Id.*, ¶ 87.

10 for permanent DTV use (*see* FCC File No. BFREEET-20050119AAF). WSU is presently operating KWSU-DT's digital facility on DTV Channel 17 pursuant to a grant of Special Temporary Authorization ("STA") in FCC File No. BDSTA-20041118AEO (as extended by BEDSTA-20051216AAI). As explained below, severe financial limitations and unique terrain considerations, which drastically affect KWSU's coverage and replication calculations, will prevent WSU from meeting the 80% replication and warrant waiver of the July 1 DTV deadline.

Based on the FCC's replication methodology, KWSU-DT's current digital coverage reaches only 41% of the baseline analog population for KWSU-TV. *See* Exhibit 14. However, those figures are extremely misleading due to the inclusion of population from the Spokane, Washington area within the contour and population calculation for the analog baseline figures. KWSU is licensed to Pullman, Washington, a town of 24,675 people in southeast Washington state. Located approximately seventy (70) miles to the north is the city of Spokane, Washington, population 196,624. Although portions of Spokane are within the Grade B contour for analog KWSU-TV, those areas do not actually receive the analog signal due to intervening terrain. Exhibits 6-7 demonstrate the severe terrain blockage that occurs outside of Spokane, and prevents actual reception of the KWSU signal.

Of particular note, the baseline analog population numbers include "KMX error points" which are counted as interference-free coverage, allowing an entire population block to be included in a contour calculation if the signal is predicted to be received in any portion of that block. *See* Exhibits 1-5. However, as demonstrated by Exhibits 8-10 and 12-13 (and summarized in Exhibit 14), a more realistic Longley-Rice calculation that excludes the KMX error population results in an analog population of 138,830, and a DTV coverage of 110,403 persons, or 79.5%, which essentially satisfies the 80% coverage requirement.

In order to reach 80% replication utilizing the formal FCC calculations, WSU would need to spend nearly \$1,000,000 on facility modifications and equipment purchases. As detailed in Exhibit 11, WSU would have to acquire a new transmitter (available at a discounted price of \$589,424), and several other items (including transmission line, antenna, interconnect line kit, power conditioner, TX RF System, etc.) totaling approximately \$95,000. In addition, the itemized installation costs for the antenna and feedline, tower, transmitter, and transmitter building would total nearly \$300,000.

The \$1 million total cost of 80% replication compliance is completely impractical for WSU for several reasons. First, from a purely financial standpoint, the expense is prohibitive for this public broadcaster and state educational institution. WSU has already spent \$1,202,000 on digital conversion for KWSU-TV and its other full power station KTNW(TV), and the annual operating budget for KWSU-TV and KTNW(TV) (FY 2007 projected) is only \$1,710,000. Moreover, WSU must still incur the costs associated with converting current NTSC Channel 10 to digital for KWSU's permanent DTV operation. For that matter, the temporary status of KWSU-DT's digital operation on Channel 17 makes it even more difficult to justify the exorbitant costs associated with reaching the 80% level at this time.

Even more compelling with respect to the cost/benefit analysis is the terrain blockage situation. While the costly transmitter, equipment and installation costs would permit WSU to reach the theoretical 80% replication level, in reality most of those purportedly served by the analog baseline coverage and to be added by such an increase in DTV coverage would actually be receiving neither the analog nor the digital signals due to the intervening terrain. Thus it is unreasonable to expect WSU to bear the great expense that would be required in order to reach 80% replication when much of the additional population to be replicated on paper in fact cannot receive analog KWSU-TV, and still would not receive an upgraded KWSU-DT digital signal.

Continued protection of KWSU's full replication facilities will serve the public interest by allowing WSU to maintain existing noncommercial television service for its viewers in the Pullman area after it converts Channel 10 to digital operation. Notably, WSU should be more readily able to achieve full replication using DTV Channel 10, as it will be able to utilize its current NTSC Channel 10 top-mounted antenna position for KWSU's digital Channel 10 operation. In the meantime, WSU has applied to modify its DTV construction permit for KWSU-DT in order to maximize its DTV power utilizing its existing equipment. Without encountering the serious expense involved with a transmitter replacement, WSU can immediately increase KWSU-DT's current operating power from 4.5 kW to 10 kW ERP upon grant of the application pending in FCC File No. BMPEDT-20060616ABM.³

Based on the foregoing, WSU submits that good cause exists for a waiver of the July 1, 2006 replication requirements as apply to Station KWSU-TV/DT. Not only do severe financial constraints demonstrate the impracticality of achieving 80% replication of KWSU-TV's baseline analog population on its current DTV channel, but circumstances beyond WSU's control (as affect the replication calculations and terrain considerations in this case) render compliance with the 80% figure an academic exercise that does not truly reflect the actual analog and digital reach of the station's signals. WSU therefore respectfully requests a waiver of the DTV replication/maximization interference protection deadline for KWSU-TV/DT.

WSU is a noncommercial educational broadcaster and operates station KWSU-TV/DT on a noncommercial educational basis. Moreover, WSU qualifies as governmental entity. WSU is therefore exempt from filing fees pursuant to Section 1.1114 of the FCC's Rules, and exempt from regulatory fees pursuant to Section 1.1162 of the FCC's Rules. This request is also exempt from the Anti-Drug Abuse Act certification requirements pursuant to Section 1.2002(c) of the Rules.

³ WSU is separately filing an application to extend its STA for KWSU-DT, to authorize continued operation of the station's DTV facility until the minor modification in BMPEDT-20060616ABM is granted and can be licensed.

Marlene H. Dortch, Esq.

June 28, 2006

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Should any questions arise concerning this waiver request, kindly contact this office.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Barry Persh".

Todd D. Gray

Barry S. Persh

Counsel for Washington State University

cc: Shaun Maher (FCC) (at Shaun.Maher@fcc.gov)

Contents and Explanations of Exhibits

- 1. KWSU-TV Analog KWX Errors and Population at Spokane**
Shows the KWX errors (red blocks) around the Spokane, WA area and the areas of population (blue +). This shows that there are several KWX errors over major population areas.
- 2. KTNW-DT KWX Errors and Population at Tri-Cities**
Shows the KWX errors (red blocks) for the coverage area and around the Tri-Cities, WA area with the areas of population (blue +). This comparison shows that there are few KWX errors over major population areas and the city of license.
- 3. KWSU-TV Analog KWX Errors and Population at Pullman**
Shows the KWX errors (red blocks) around the Pullman, WA area and the areas of population (blue +). This comparison shows that there are no KWX errors over major population areas and the city of license.
- 4. KWSU-TV Analog Longley-Rice Coverage Showing radials from transmitter to Spokane**
Shows the Longley-Rice predicted 56 dBu coverage excluding KWX errors for KWSU-TV Analog, and several radials plotted from the transmitter to the Spokane area which correspond to the path profile plots.
- 5. KWSU-TV Analog Longley-Rice Coverage Showing radials over Spokane**
Shows a close-up of the Spokane area with the Longley-Rice predicted 56 dBu coverage excluding KWX errors for KWSU-TV Analog, and several radials plotted from the transmitter to the Spokane area which correspond to the path profile plots.
- 6. Terrain Profile along five radials from the KWSU transmitter site to Spokane**
Demonstrates the path profile from Kamiak Butte to Spokane along five radials. This clearly shows terrain blockage to the KWSU signal.
- 7. Terrain Profile along the 350 degree radial from the KWSU transmitter site to Spokane**
Demonstrates a more graphic path profile from Kamiak Butte to Spokane along the 350 degree radial. This also clearly shows terrain blockage to the KWSU signal.
- 8. KWSU-TV Analog Longley-Rice Coverage**
Shows the Longley-Rice predicted coverage excluding KWX errors for KWSU-TV Analog. This shows all signal levels.
- 9. KWSU-DT Longley-Rice Coverage**
Demonstrates the Longley-Rice predicted 41 dBu coverage excluding KWX errors for KWSU-DT at the increased 10 kW ERP. It also shows that the city of license (Pullman) is completely covered.
- 10. KWSU-DT Longley-Rice Coverage**
Shows the Longley-Rice predicted coverage excluding KWX errors for KWSU-DT. This shows all LR signal levels and FCC contours for the 41 dBu DT signal and the 56 dBu analog signal.
- 11. KWSU DTV 80% Replication Costs**

A breakdown of the costs to increase the KWSU-DT ERP to replicate 80% of the analog population using the FCC's method which includes KWX errors. All available PBS & CPB discounts are shown.

12. KWSU-DT 80% Replication

Shows a plot of the FCC contours for KWSU-TV analog grade 'B'. The high power KWSU-DT grade 'B' contour is also shown which achieves 80% population replication using the FCC's method which includes KWX errors. The antenna is side-mounted on the KWSU-TV tower just under the analog antenna.

13. KWSU-DT Longley-Rice Coverage

Shows the Longley-Rice predicted 41 dBu coverage excluding KWX errors for KWSU-DT with increased ERP to replicate 80% of the analog population.

14. Summary of population counts

A summary of all of the population counts for DT and analog using the FCC's method with KWX errors and the Longley-Rice method excluding KWX errors.

EXHIBIT 1

KWSU-TV

BLET397

Latitude: 46-51-43 N

Longitude: 117-10-26 W

ERP: 123.00 kW

Channel: 10-

Frequency: 194.5 MHz

AMSL Height: 1178.0 m

Elevation: 1029.33 m

HAAT: 408.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: Longley/Rice

Climate: Cont temperate

Conductivity: 0.0050

Dielec Const: 15.0

Refractivity: 311.0

Receiver Ht AG: 9.1 m

Receiver Gain: 0 dB

Time Variability: 50.0%

Sit. Variability: 50.0%

ITM Mode: Broadcast

■ KWX Error

■ Census Block

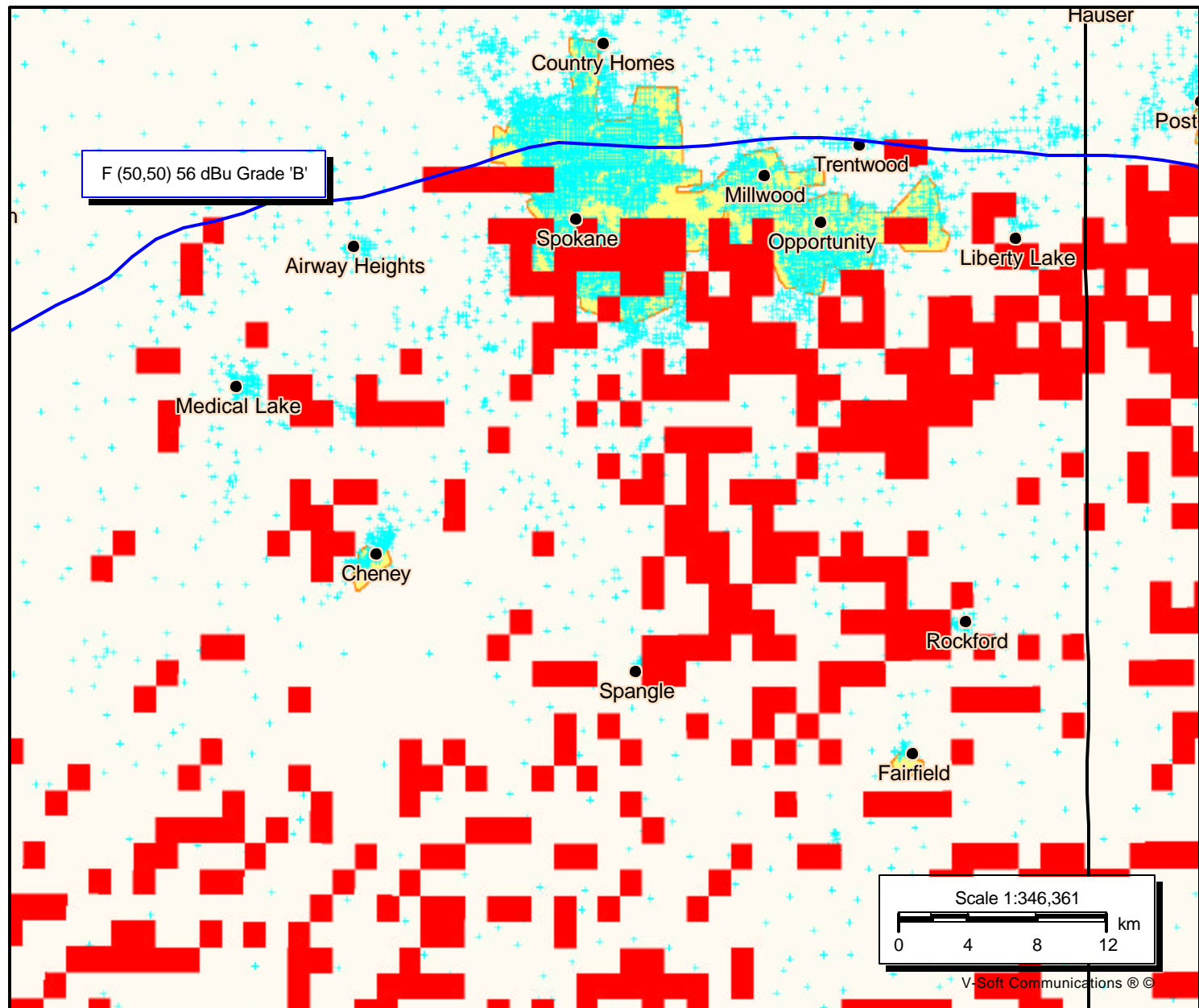
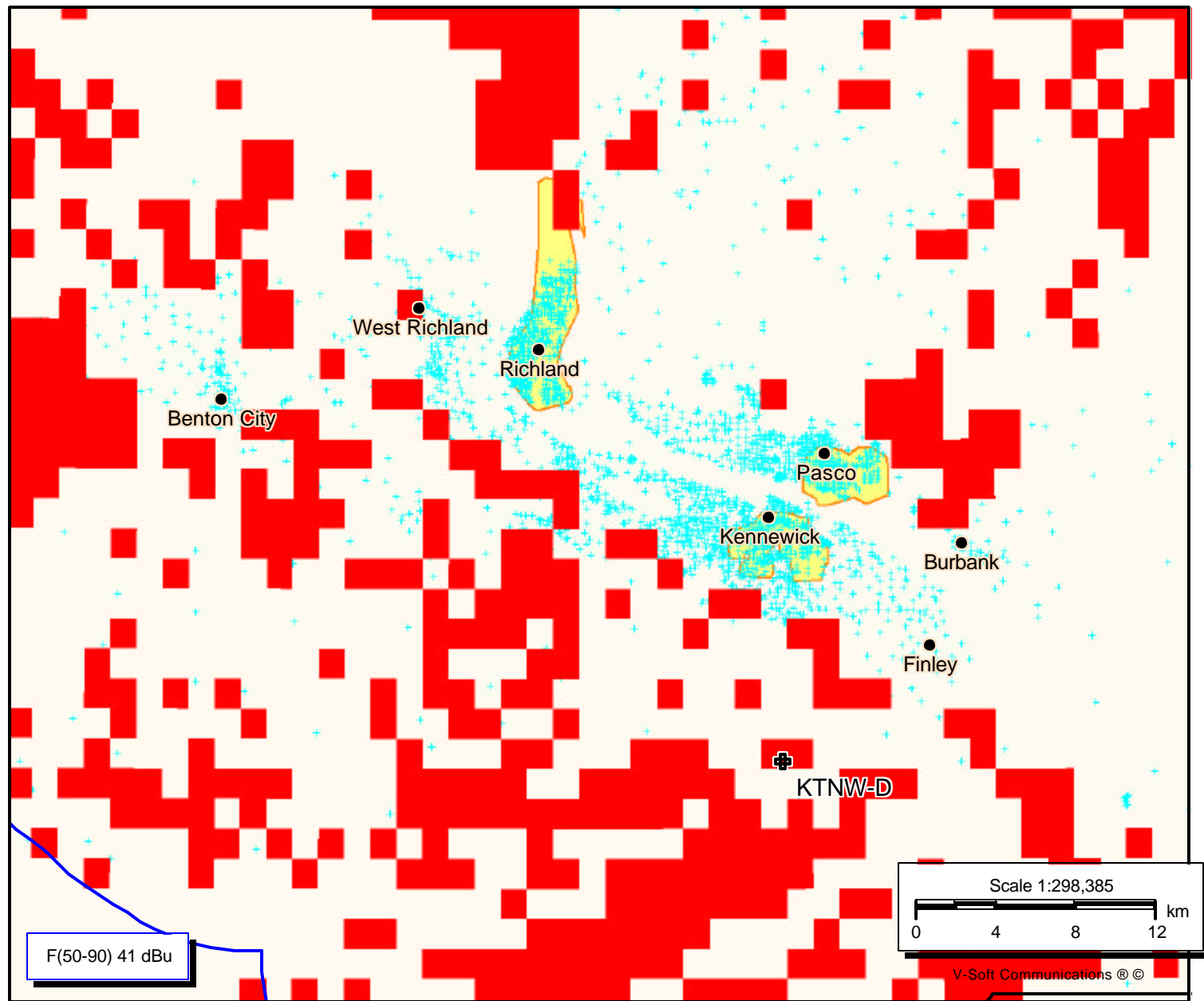


EXHIBIT 2

KTNW-D

BLEDT20030429AAW
Latitude: 46-06-12 N
Longitude: 119-07-40 W
ERP: 47.60 kW
Channel: 38
Frequency: 617.0 MHz
AMSL Height: 675.0 m
Elevation: 609.0 m
HAAT: 361.0 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.0
Prop Model: Longley/Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 301.0
Receiver Ht AG: 10.0 m
Receiver Gain: 0 dB
Time Variability: 90.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast

- KWX Error
- Census Blocks



F(50-90) 41 dBu

Scale 1:298,385

0 4 8 12 km

V-Soft Communications ® ©

KTNW-D

BLEDT20030429AAW

Latitude: 46-06-12 N

Longitude: 119-07-40 W

ERP: 47.60 kW

Channel: 38

Frequency: 617.0 MHz

AMSL Height: 675.0 m

Elevation: 609.0 m

HAAT: 361.0 m

Horiz. Pattern: Directional

Vert. Pattern: Yes

Elec Tilt: 0.0

Prop Model: Longley/Rice

Climate: Cont temperate

Conductivity: 0.0050

Dielec Const: 15.0

Refractivity: 301.0

Receiver Ht AG: 10.0 m

Receiver Gain: 0 dB

Time Variability: 90.0%

Sit. Variability: 50.0%

ITM Mode: Broadcast



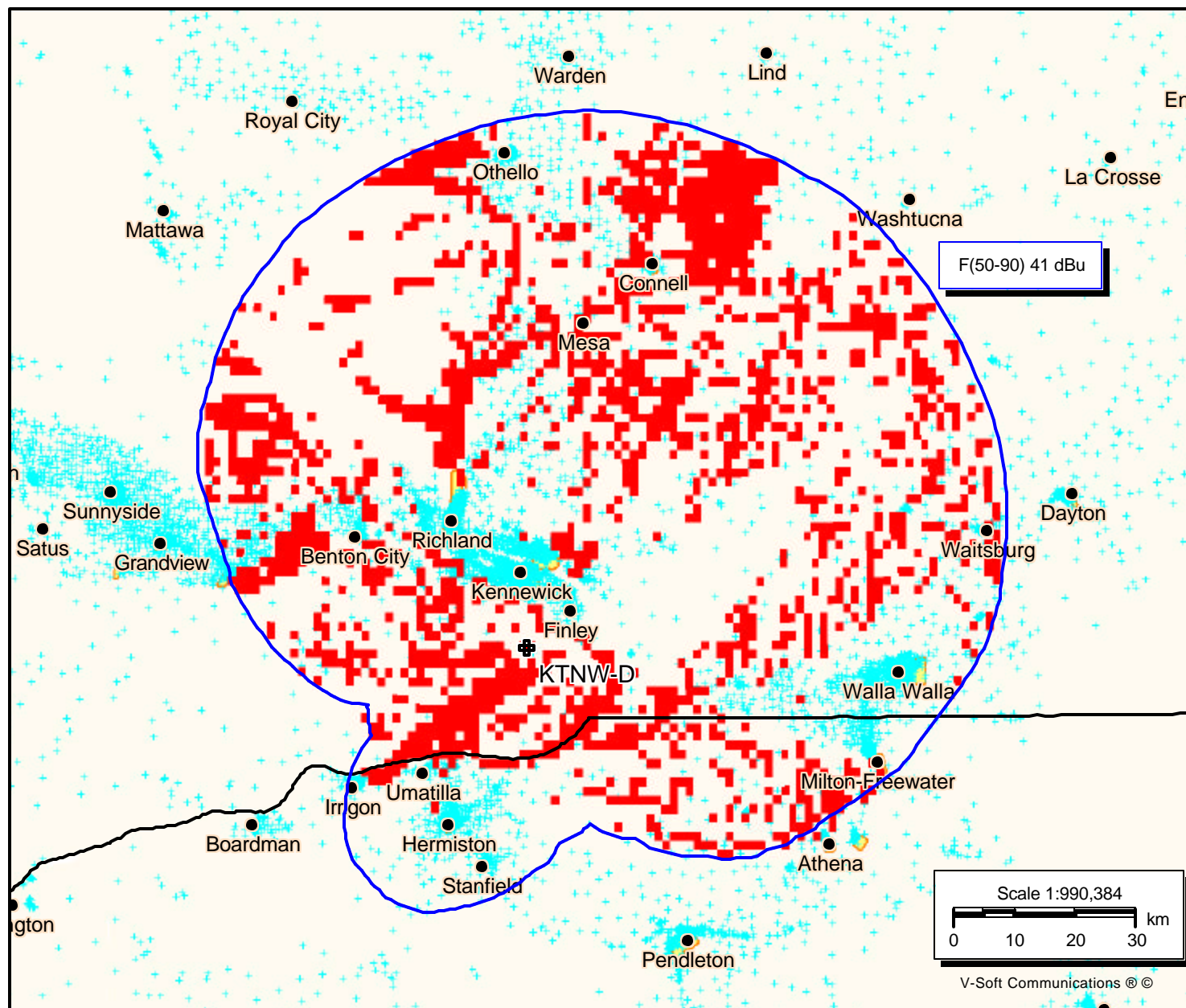
 KWX Error Census Blocks

EXHIBIT 3

KWSU-TV

BLET397

Latitude: 46-51-43 N

Longitude: 117-10-26 W

ERP: 123.00 kW

Channel: 10-

Frequency: 194.5 MHz

AMSL Height: 1178.0 m

Elevation: 1029.33 m

HAAT: 408.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: Longley/Rice

Climate: Cont temperate

Conductivity: 0.0050

Dielec Const: 15.0

Refractivity: 311.0



Receiver Ht AG: 9.1 m

Receiver Gain: 0 dB

Time Variability: 50.0%

Sit. Variability: 50.0%

ITM Mode: Broadcast

-  KWX Error
-  Census Block

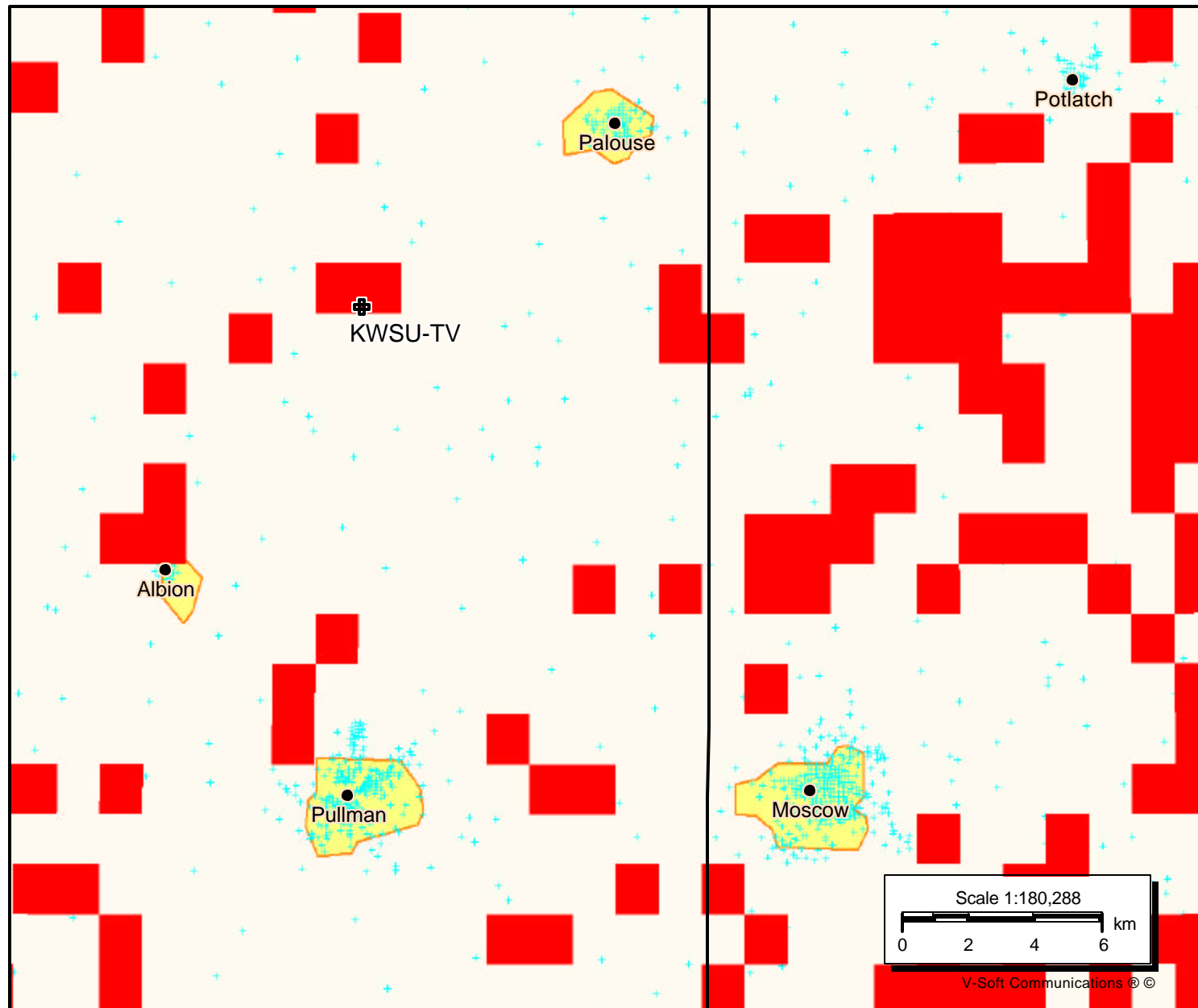


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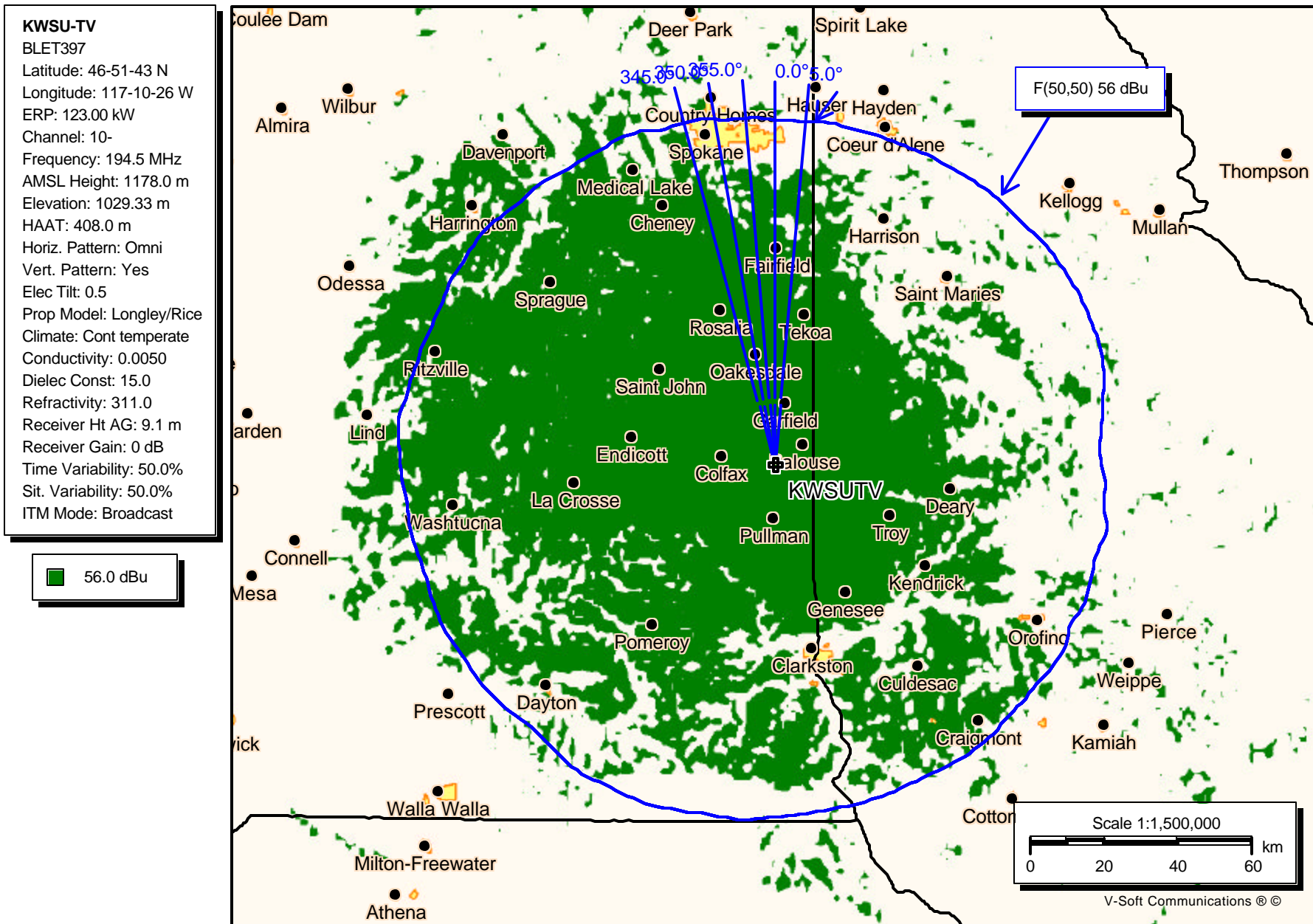


EXHIBIT 5

KWSU-TV

BLET397

Latitude: 46-51-43 N

Longitude: 117-10-26 W

ERP: 123.00 kW

Channel: 10-

Frequency: 194.5 MHz

AMSL Height: 1178.0 m

Elevation: 1029.33 m

HAAT: 408.0 m

Horiz. Pattern: Omni

Vert. Pattern: Yes

Elec Tilt: 0.5

Prop Model: Longley/Rice

Climate: Cont temperate

Conductivity: 0.0050

Dielec Const: 15.0

Refractivity: 311.0

Receiver Ht AG: 9.1 m

Receiver Gain: 0 dB

Time Variability: 50.0%

Sit. Variability: 50.0%

ITM Mode: Broadcast

56.0 dBu

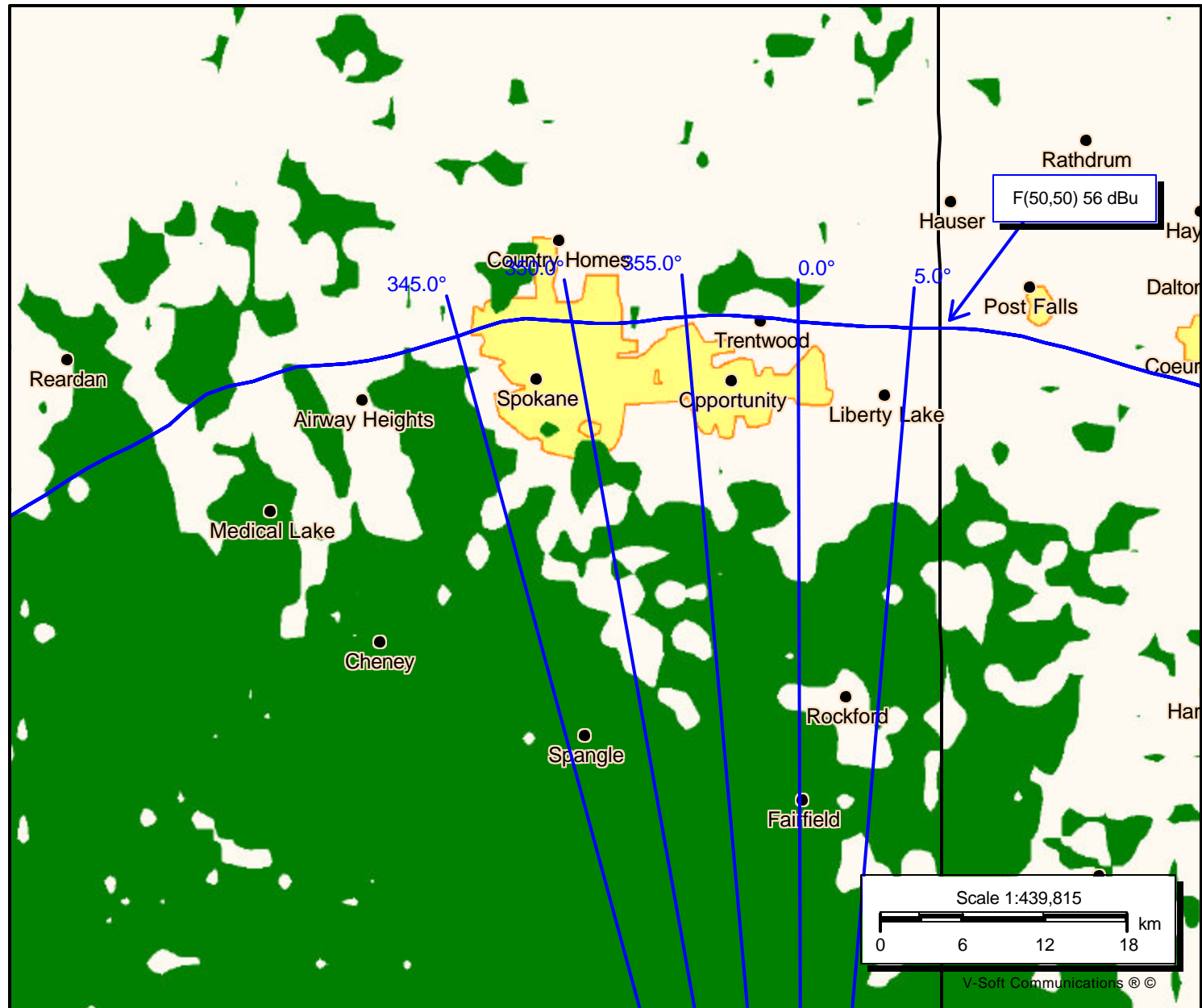
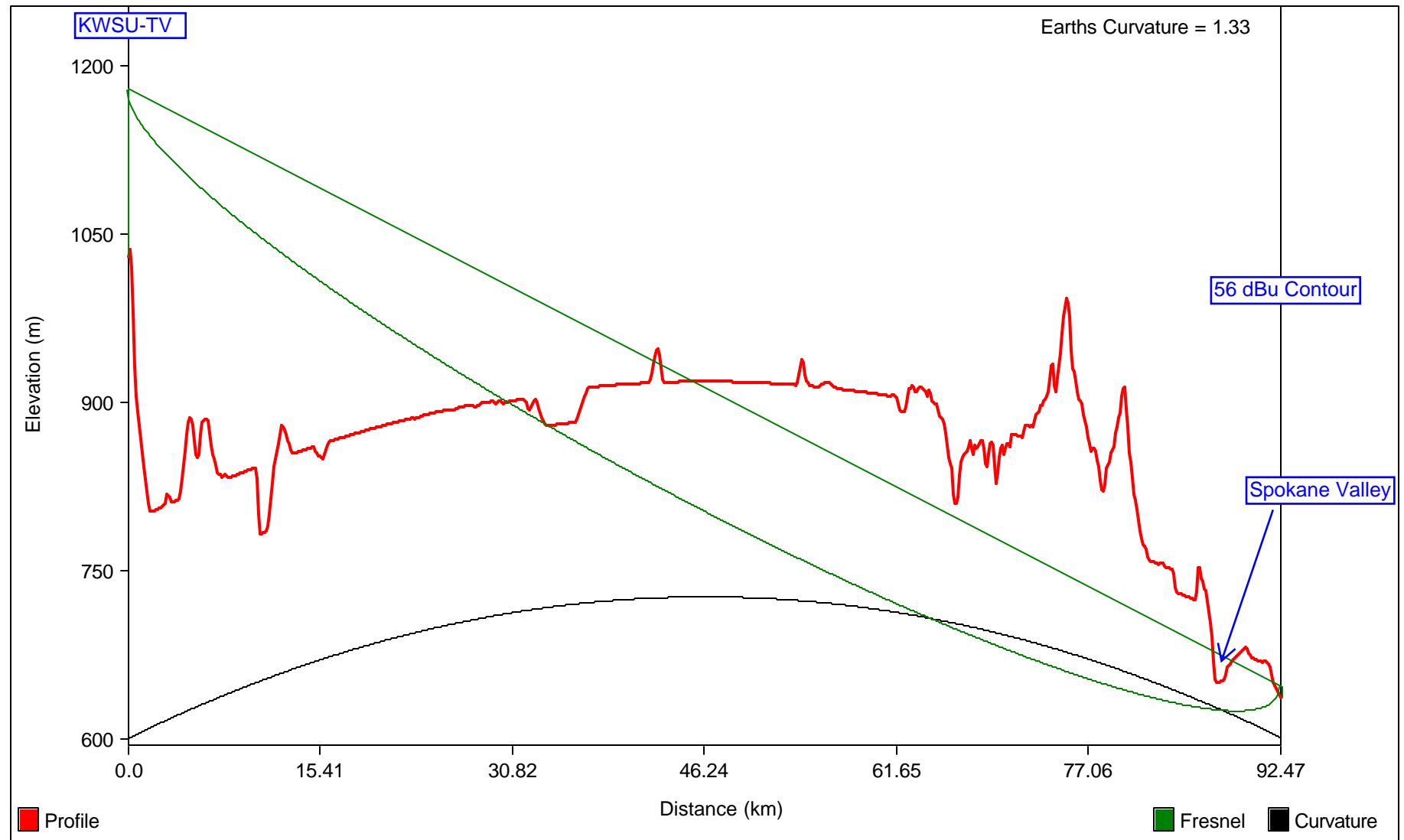


EXHIBIT 6

Terrain Profile @ 0 Degrees



Starting Latitude: 46-51-43 N
Starting Longitude: 117-10-26 W

End Latitude: 47-41-37.37 N
End Longitude: 117-10-45.03 W

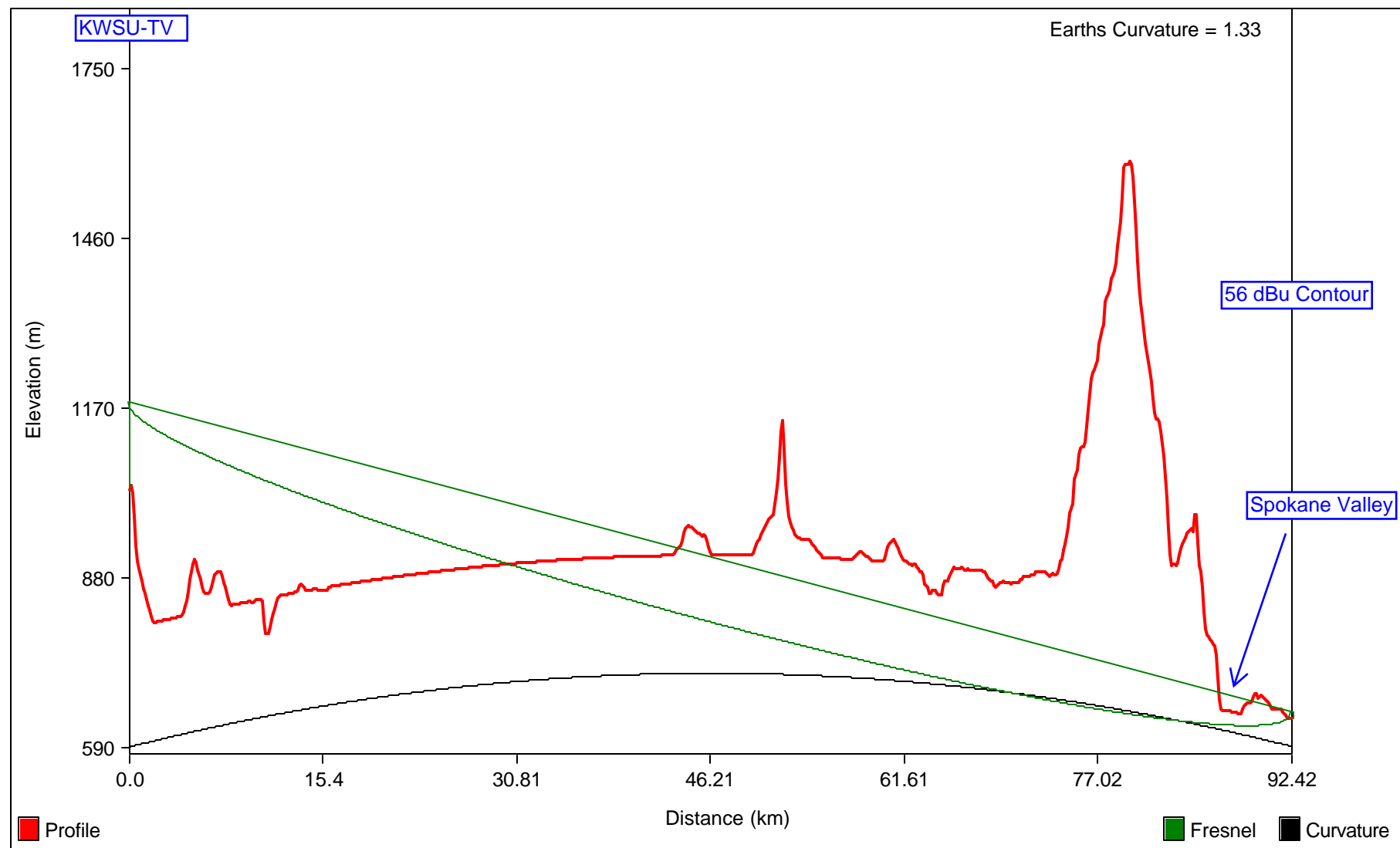
Distance: 92.47 km
Bearing: 359.75 deg

Transmitter Height (AG) = 148.7 m
Receiver Height (AG) = 9.1 m

Transmitter Elevation = 1029.3 m
Receiver Elevation = 636.7 m

Frequency = 194.5 MHz
Fresnel Zone: 0.6

Terrain Profile @ 5 Degrees



Starting Latitude: 46-51-43 N
Starting Longitude: 117-10-26 W

End Latitude: 47-41-24.35 N
End Longitude: 117-04-05.38 W

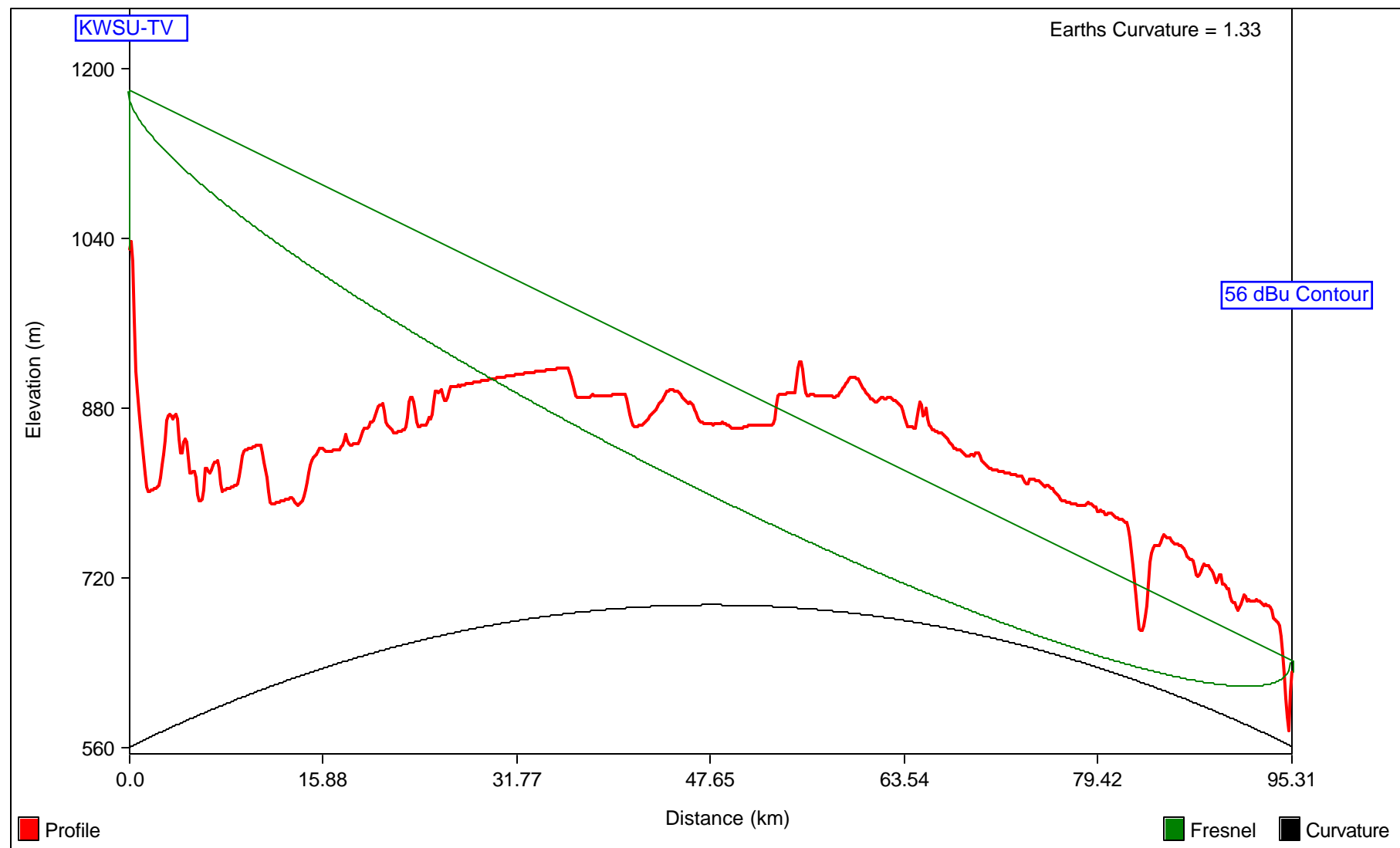
Distance: 92.42 km
Bearing: 4.93 deg

Transmitter Height (AG) = 148.7 m
Receiver Height (AG) = 9.1 m

Transmitter Elevation = 1029.3 m
Receiver Elevation = 638.9 m

Frequency = 194.5 MHz
Fresnel Zone: 0.6

Terrain Profile @ 345 Degrees



Starting Latitude: 46-51-43 N
Starting Longitude: 117-10-26 W

End Latitude: 47-41-22.85 N
End Longitude: 117-30-05.91 W

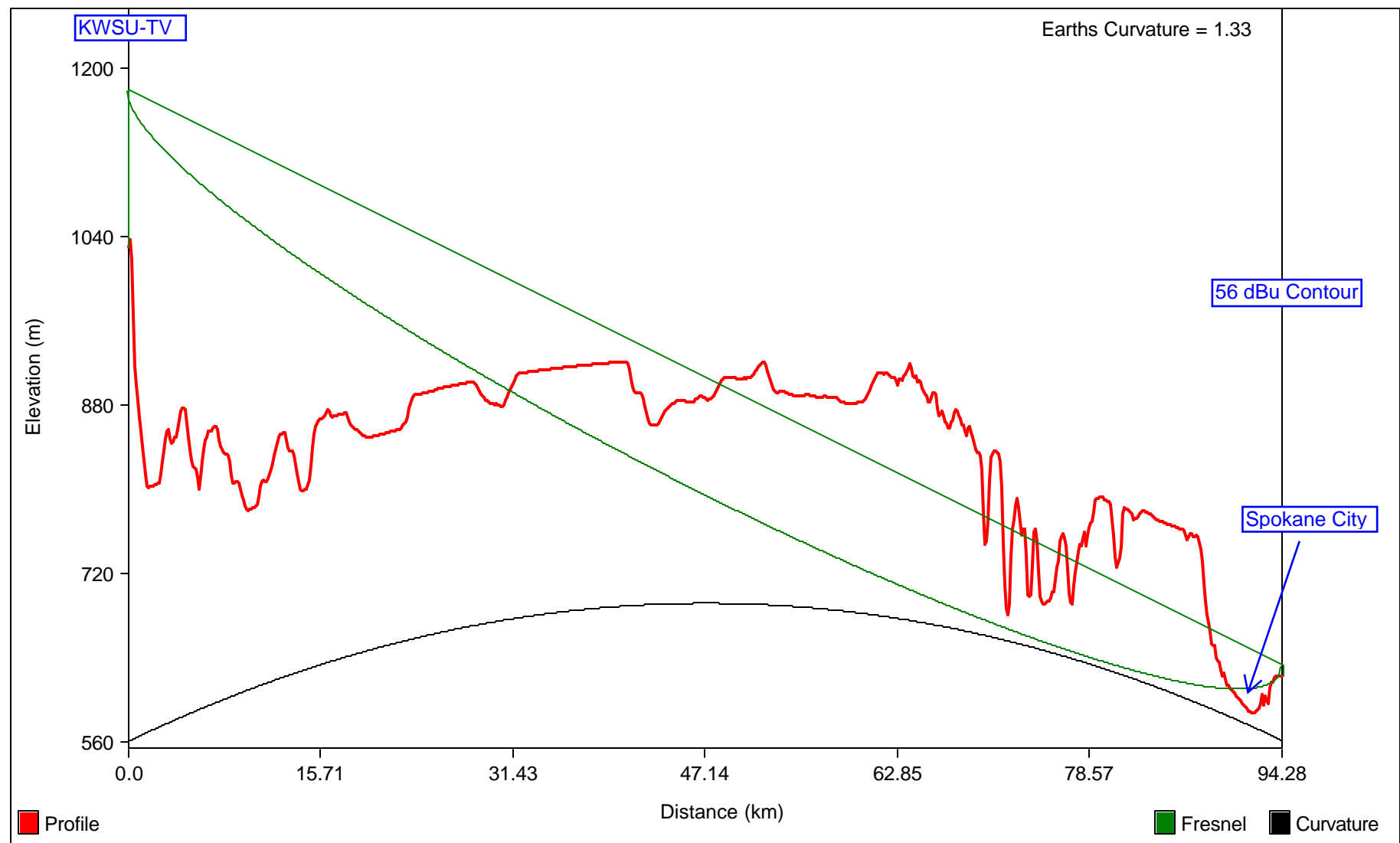
Distance: 95.31 km
Bearing: 345.04 deg

Transmitter Height (AG) = 148.7 m
Receiver Height (AG) = 9.1 m

Transmitter Elevation = 1029.3 m
Receiver Elevation = 629.9 m

Frequency = 194.5 MHz
Fresnel Zone: 0.6

Terrain Profile @ 350 Degrees



Starting Latitude: 46-51-43 N
Starting Longitude: 117-10-26 W

End Latitude: 47-41-49.49 N
End Longitude: 117-23-26.37 W

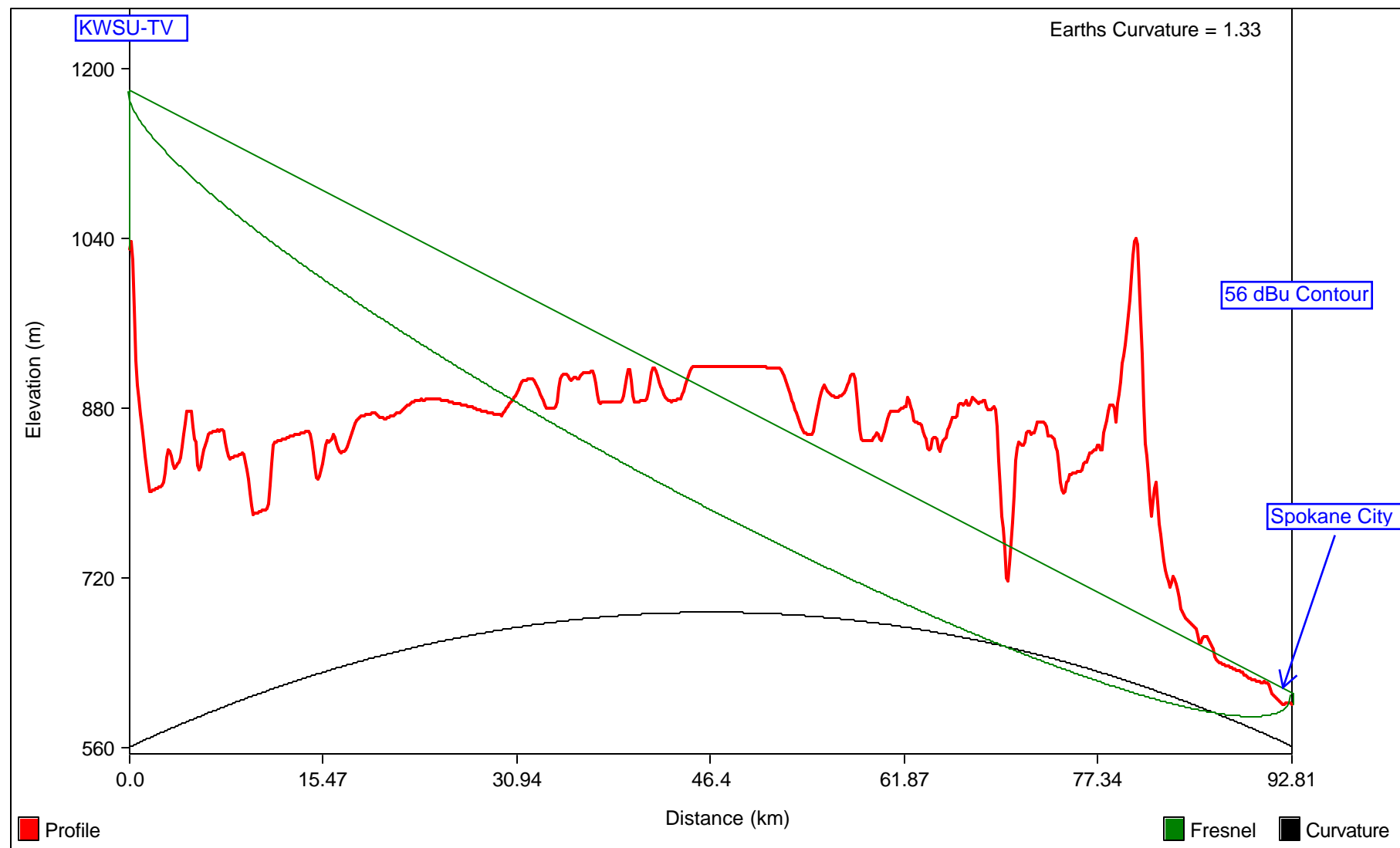
Distance: 94.28 km
Bearing: 350.06 deg

Transmitter Height (AG) = 148.7 m
Receiver Height (AG) = 9.1 m

Transmitter Elevation = 1029.3 m
Receiver Elevation = 621.7 m

Frequency = 194.5 MHz
Fresnel Zone: 0.6

Terrain Profile @ 355 Degrees



Starting Latitude: 46-51-43 N
Starting Longitude: 117-10-26 W

End Latitude: 47-41-37.19 N
End Longitude: 117-16-46.64 W

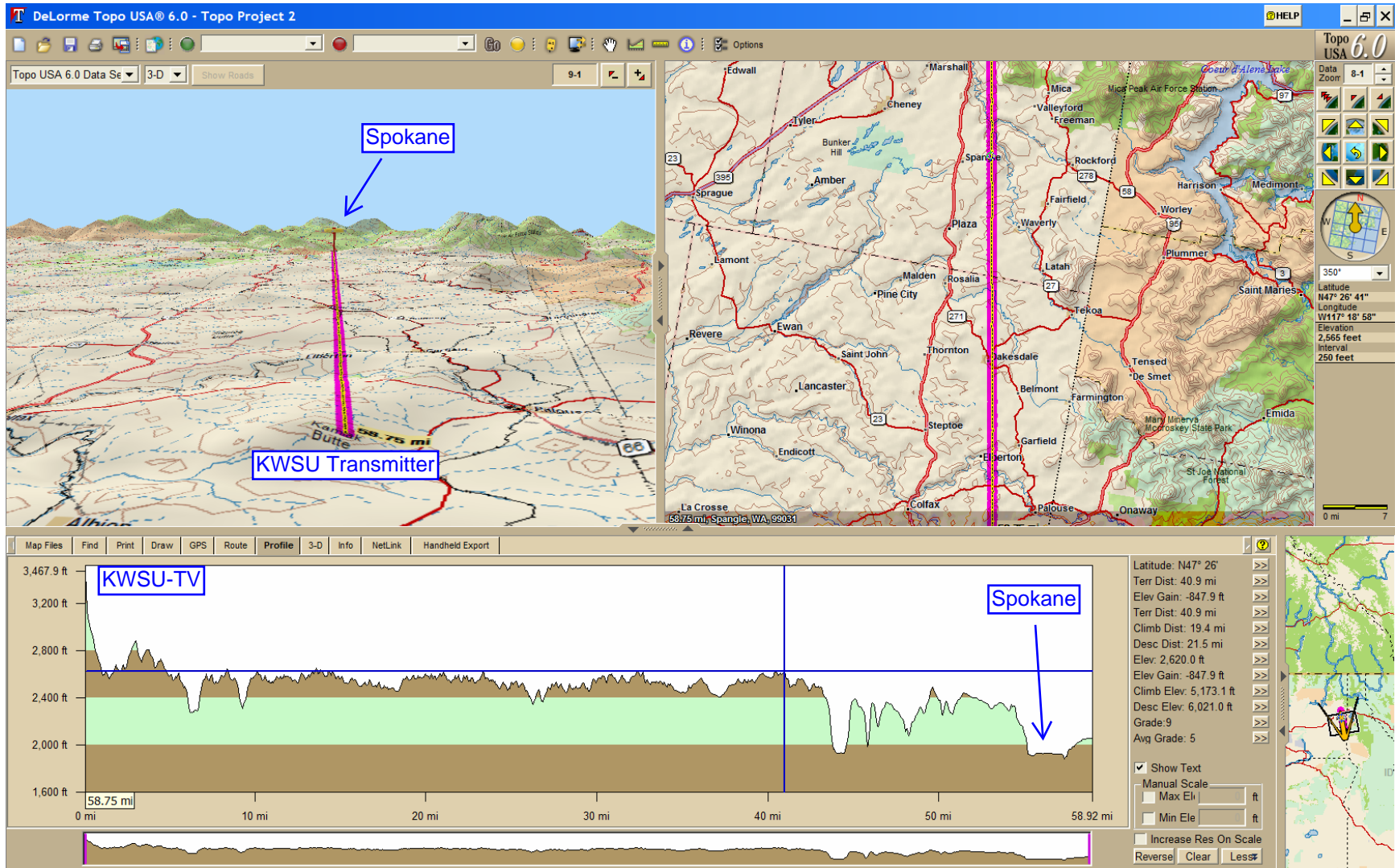
Distance: 92.81 km
Bearing: 355.09 deg

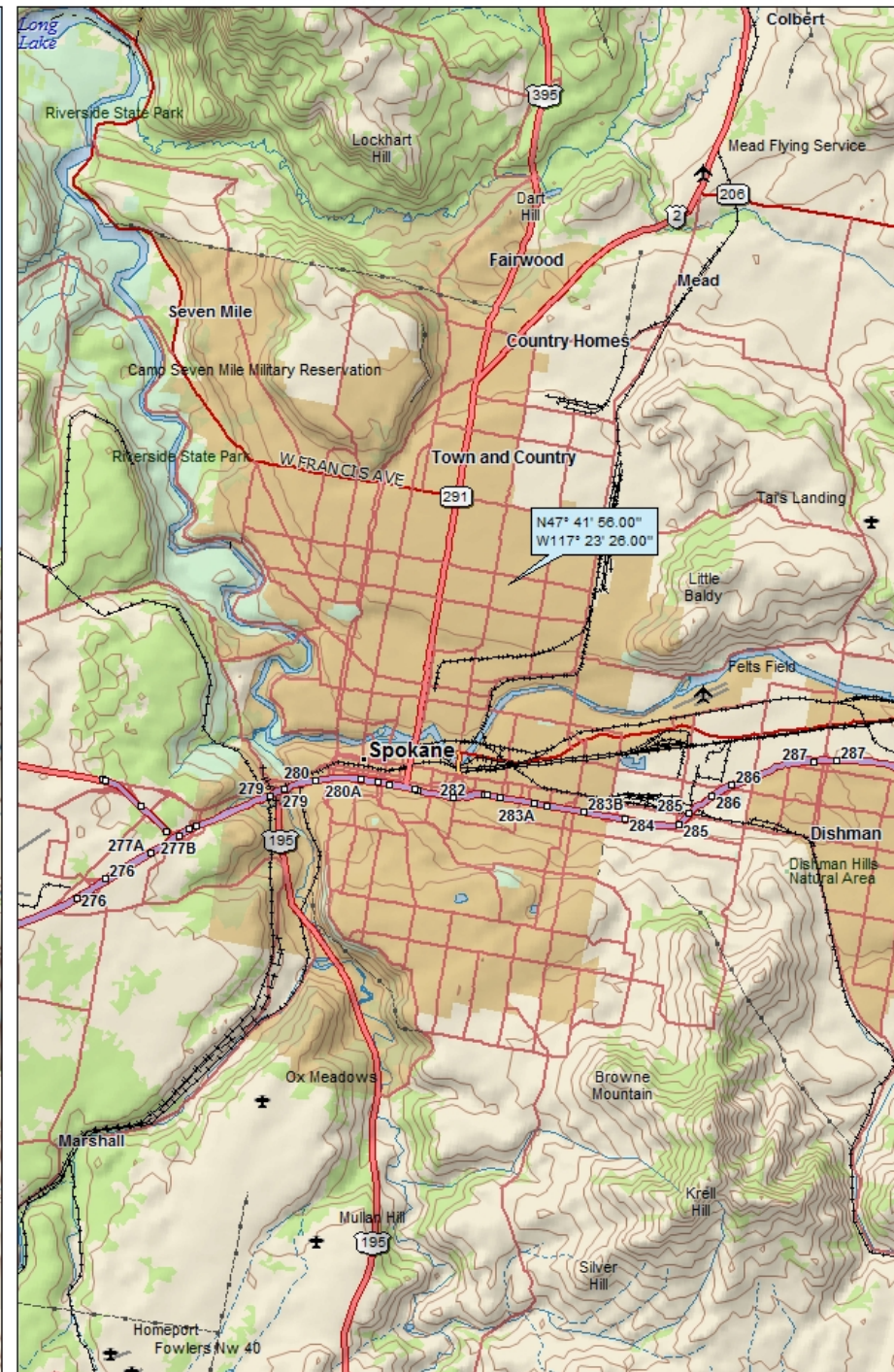
Transmitter Height (AG) = 148.7 m
Receiver Height (AG) = 9.1 m

Transmitter Elevation = 1029.3 m
Receiver Elevation = 599.8 m

Frequency = 194.5 MHz
Fresnel Zone: 0.6

EXHIBIT 7

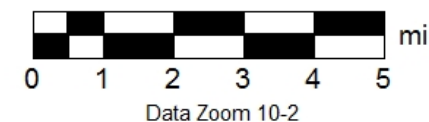
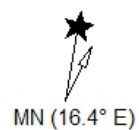


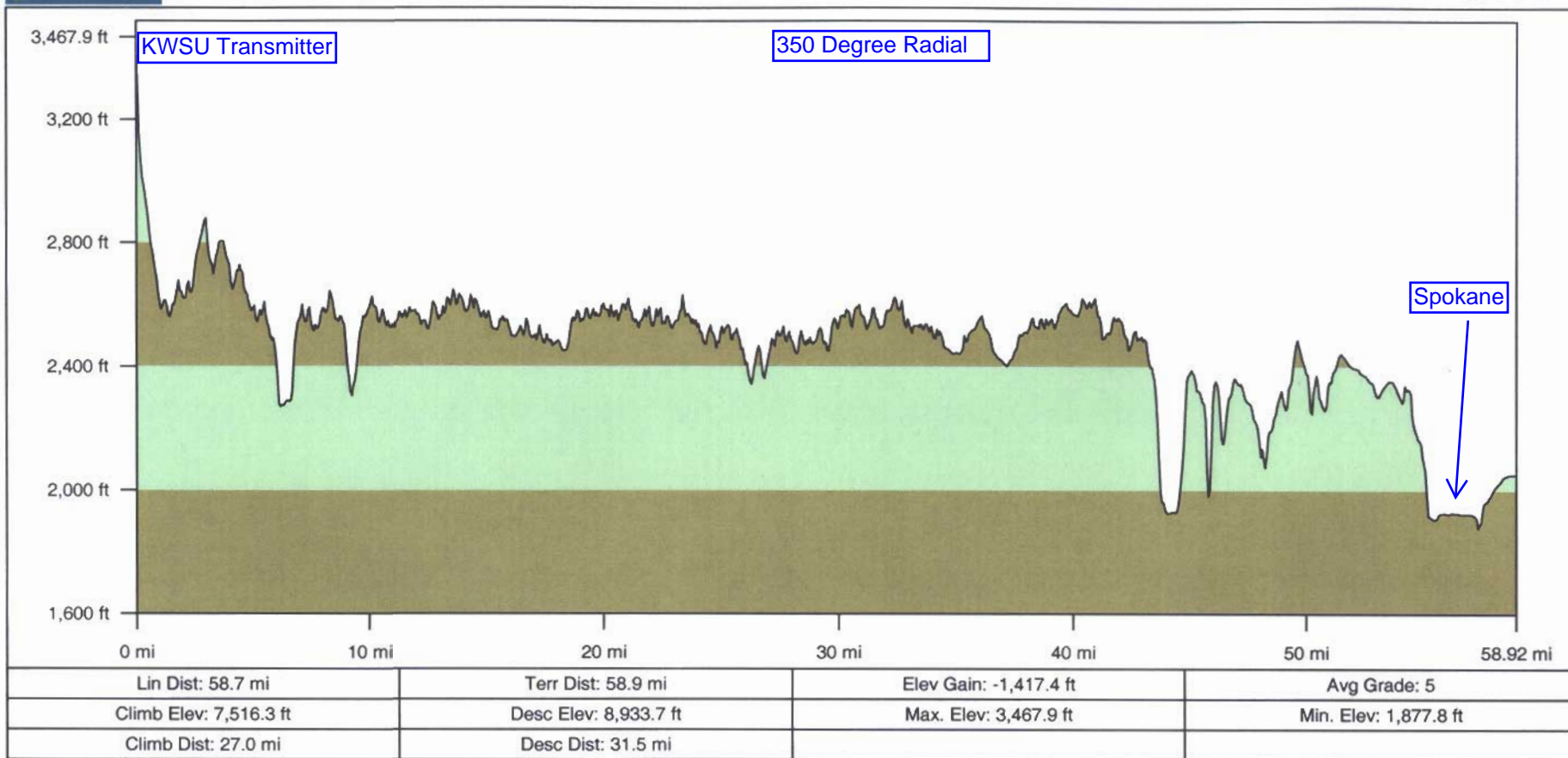


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EXHIBIT 8

KWSU-TV

BLET397

Latitude: 46-51-43 N

Longitude: 117-10-26 W

ERP: 123.00 kW

Channel: 10-

Frequency: 194.5 MHz

AMSL Height: 1178.0 m

Elevation: 1029.33 m

HAAT: 408.0 m

Horiz. Pattern: Omni

Vert. Pattern: Yes

Elec Tilt: 0.5

Prop Model: Longley/Rice

Climate: Cont temperate

Conductivity: 0.0050

Dielec Const: 15.0

Refractivity: 311.0

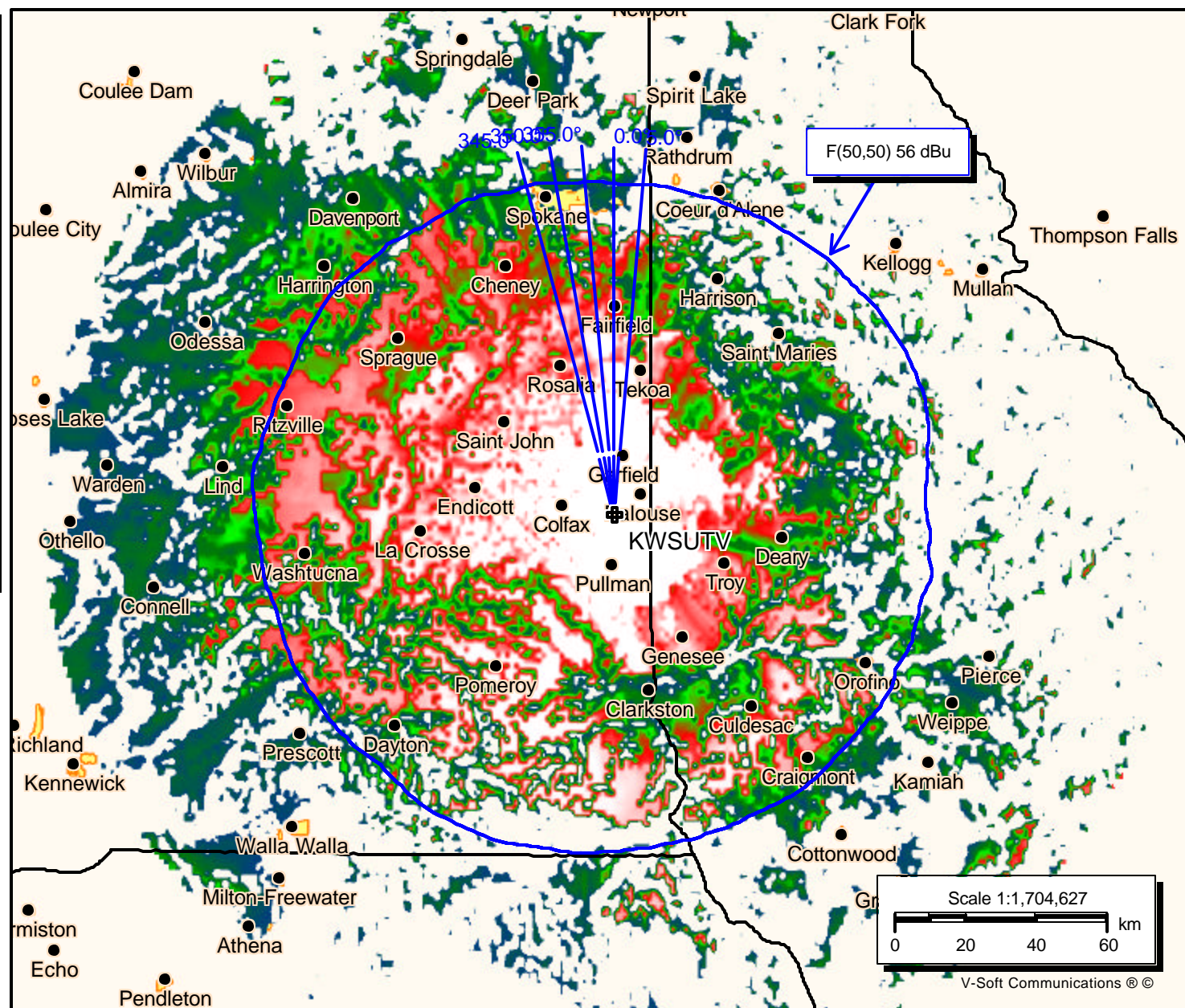
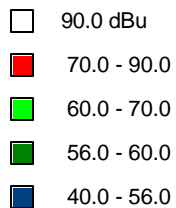
Receiver Ht AG: 9.1 m

Receiver Gain: 0 dB

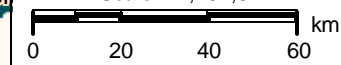
Time Variability: 50.0%

Sit. Variability: 50.0%

ITM Mode: Broadcast



Scale 1:1,704,627



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EXHIBIT 9

KWSU-DT

BDSTA20041118AEO
Latitude: 46-51-43 N
Longitude: 117-10-26 W
ERP: 10.00 kW
Channel: 17
Frequency: 491.0 MHz
AMSL Height: 1069.0 m
Elevation: 1029.33 m
HAAT: 255.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: Longley/Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 311.0
Receiver Ht AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 90.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast

56.0 dBu

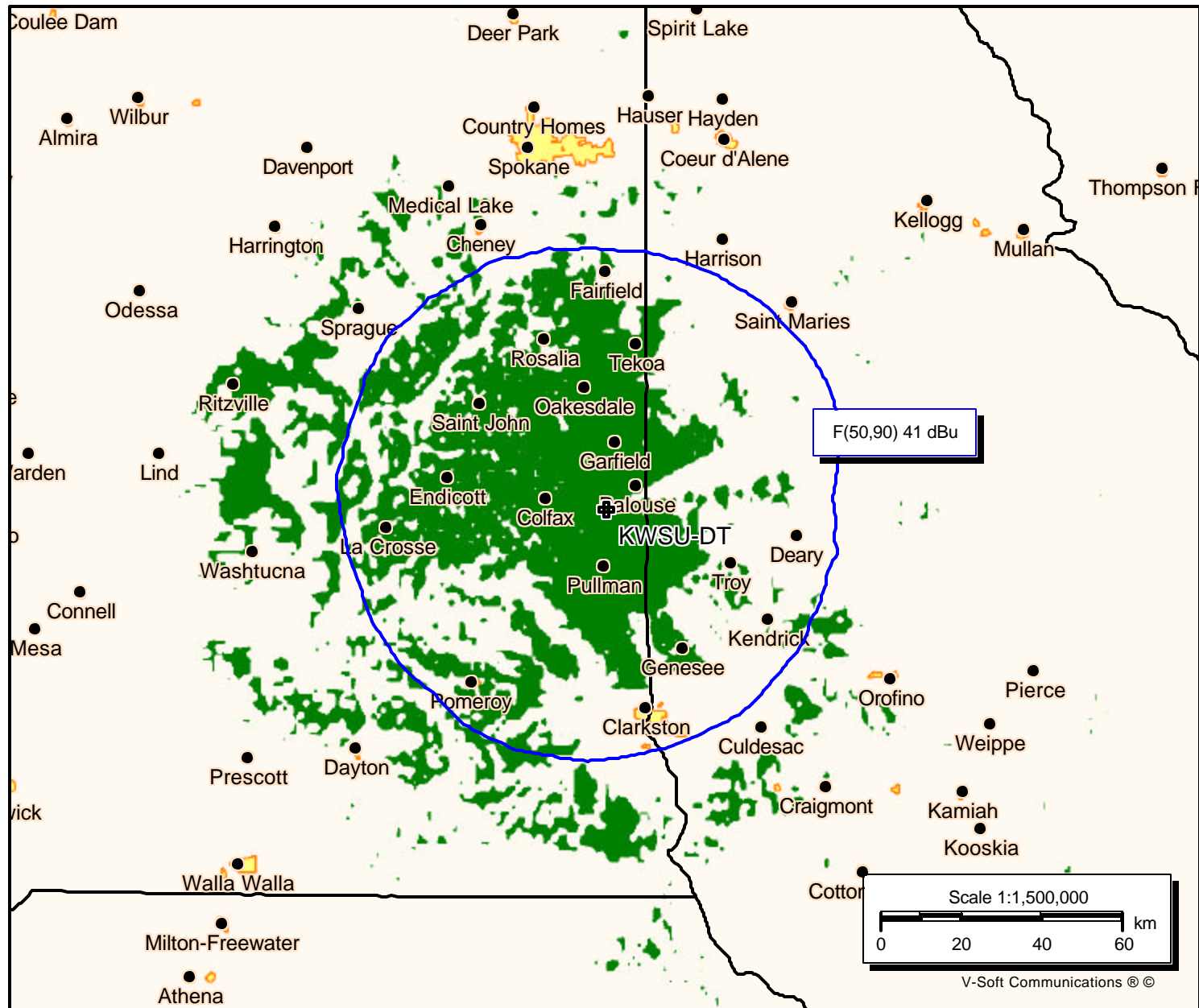


EXHIBIT 10

KWSU-DT

BDSTA20041118AEO

Latitude: 46-51-43 N

Longitude: 117-10-26 W

ERP: 10.00 kW

Channel: 17

Frequency: 491.0 MHz

AMSL Height: 1069.0 m

Elevation: 1029.33 m

HAAT: 255.0 m

Horiz. Pattern: Directional

Vert. Pattern: Yes

Elec Tilt: 0.0

Prop Model: Longley/Rice

Climate: Cont temperate

Conductivity: 0.0050

Dielec Const: 15.0

Refractivity: 311.0

Receiver Ht AG: 9.1 m

Receiver Gain: 0 dB

Time Variability: 90.0%

Sit. Variability: 50.0%

ITM Mode: Broadcast

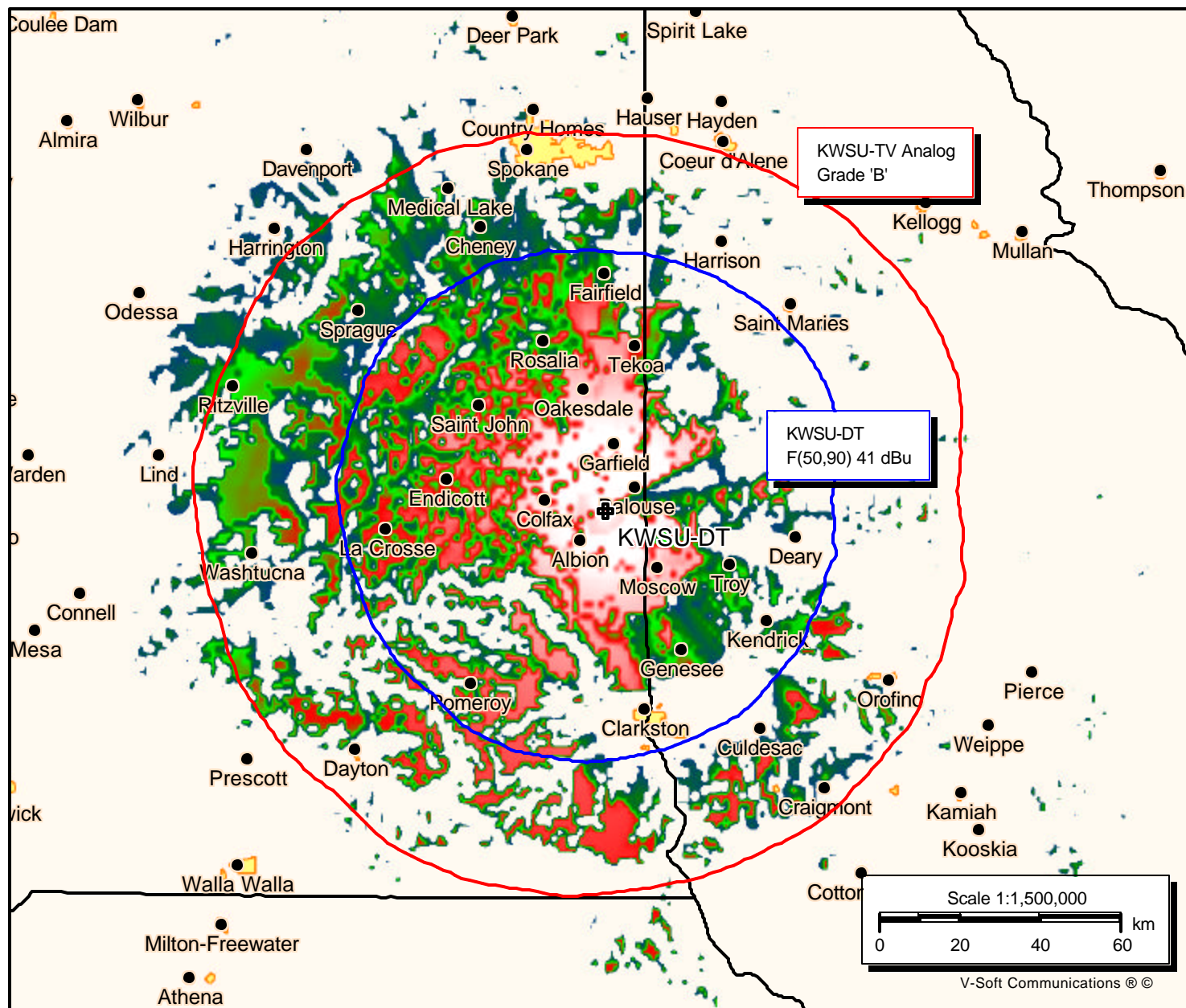
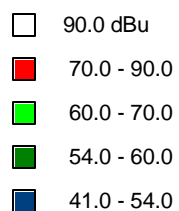


EXHIBIT 11

KWSU DTV 80% Replication Costs

		List	Discount Cost
TRANSMISSION			
Transmitter 10.6kW Ch 17	Harris DHD45P2	\$ 680,247	\$ 589,424
TX RF System	Harris/Dielectric Mask Filter & Accs	\$ 46,198	\$ 40,031
3 1/8" Interconnect Line Kit	Harris/Dielectric	\$ 4,773	\$ 4,773
Transmission Line	1-5/8" Heliax w/ connectorsx 250'	\$ 5,544	\$ 4,990
Dehydrator	Cablewave 920635	\$ 2,838	\$ 2,554
Dummy Load	Bird DA5F15	\$ 8,062	\$ 7,256
UHF Antenna	Dielectric TLP8J	\$ 32,900	\$ 29,610
Power Conditioner	Control Concepts XVS	\$ 4,540	\$ 3,859
Equipment Racks	Emcor SFR-728a	\$ 900	Purchased
Analysis on existing tower		\$ 5,425	Completed
Remote Control	Gentner GSC-3000	\$ 4,228	Purchased
	Transmitter Eqpt. Total	\$	682,497
INSTALLATION			
Antenna & Feedline Install	Contract	\$ 21,700	\$ 21,700
Transmitter Bldg Electrical Work	Contract	\$ 5,000	\$ 5,000
Transmitter Bldg HVAC additions	Contract	\$ 17,727	\$ 17,727
Transmitter Installation & Proof	Harris	\$ 46,548	\$ 40,334
220 ft Tower Installed	LeBlanc	\$ 215,200	\$ 215,200
	Transmitter Test Eqpt Total	\$	299,961
TEST EQUIPMENT - TRANS.			
Sencor DTV Analyzer	TMS1780	\$ 25,285	Purchased
Tektronix	1735-HD	\$ 3,500	Purchased
Princeton	DTV Monitor	\$ 2,500	Purchased
Off-Air Demod	Sencore AT-984	\$ 8,500	Purchased
			\$ -
Test Equipment - Studio			
ATSC Stream Analyzer	TMS1780	\$ 25,285	Purchased
Off-Air Demod	Sencore AT-984	\$ 8,500	Purchased
HD Monitor	Sony PHM20M8U	\$ 5,558	Purchased
	Studio Test Eqpt Total	\$	-
STL & Site Demux			
DS-3 Stream Decode	Harris Link Plus		Purchased
DS-3 Stream DA	Harris		Purchased
ATSC to NTSC Decode	Harris HX-400		Purchased
STL	Harris MicroStar		Purchased
	STL Total	\$	-

Grand Total \$ 982,457

EXHIBIT 12

KWSU-TV

BLET397
Latitude: 46-51-43 N
Longitude: 117-10-26 W
ERP: 123.00 kW
Channel: 10-
Frequency: 194.5 MHz
AMSL Height: 1178.0 m
Elevation: 1029.33 m
HAAT: 408.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model:

KWSU-DT

BMPEDT20011003ABJ
Latitude: 46-51-43 N
Longitude: 117-10-26 W
ERP: 144.50 kW
Channel: 17
Frequency: 491.0 MHz
AMSL Height: 1151.0 m
Elevation: 1029.33 m
HAAT: 373.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model:

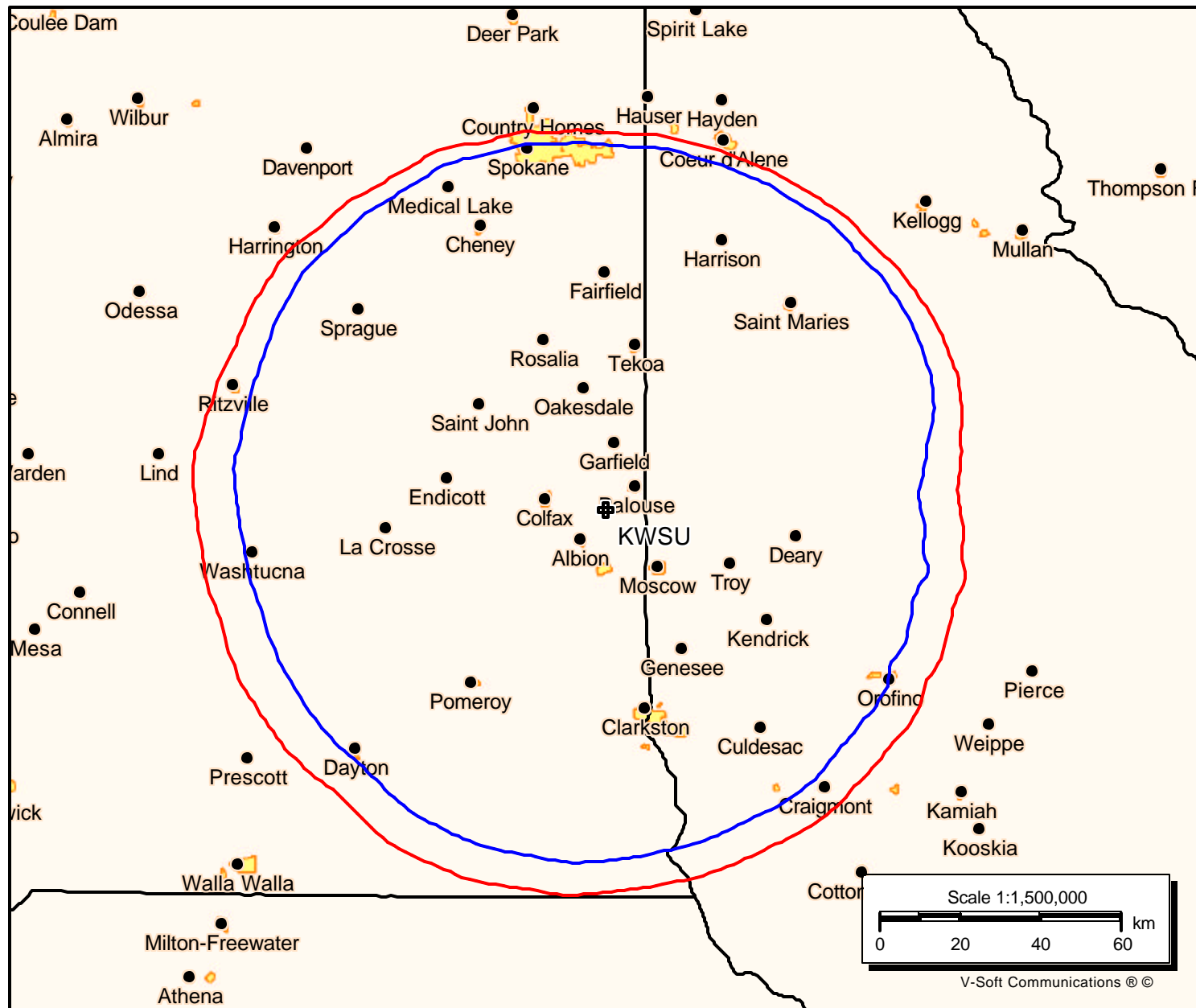


EXHIBIT 13

KWSU

Latitude: 46-51-43 N
Longitude: 117-10-26 W
ERP: 144.50 kW
Channel: 17
Frequency: 491.0 MHz
AMSL Height: 1151.0 m
Elevation: 1029.33 m
HAAT: 372.91 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: Longley/Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 311.0
Receiver Ht AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 50.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast

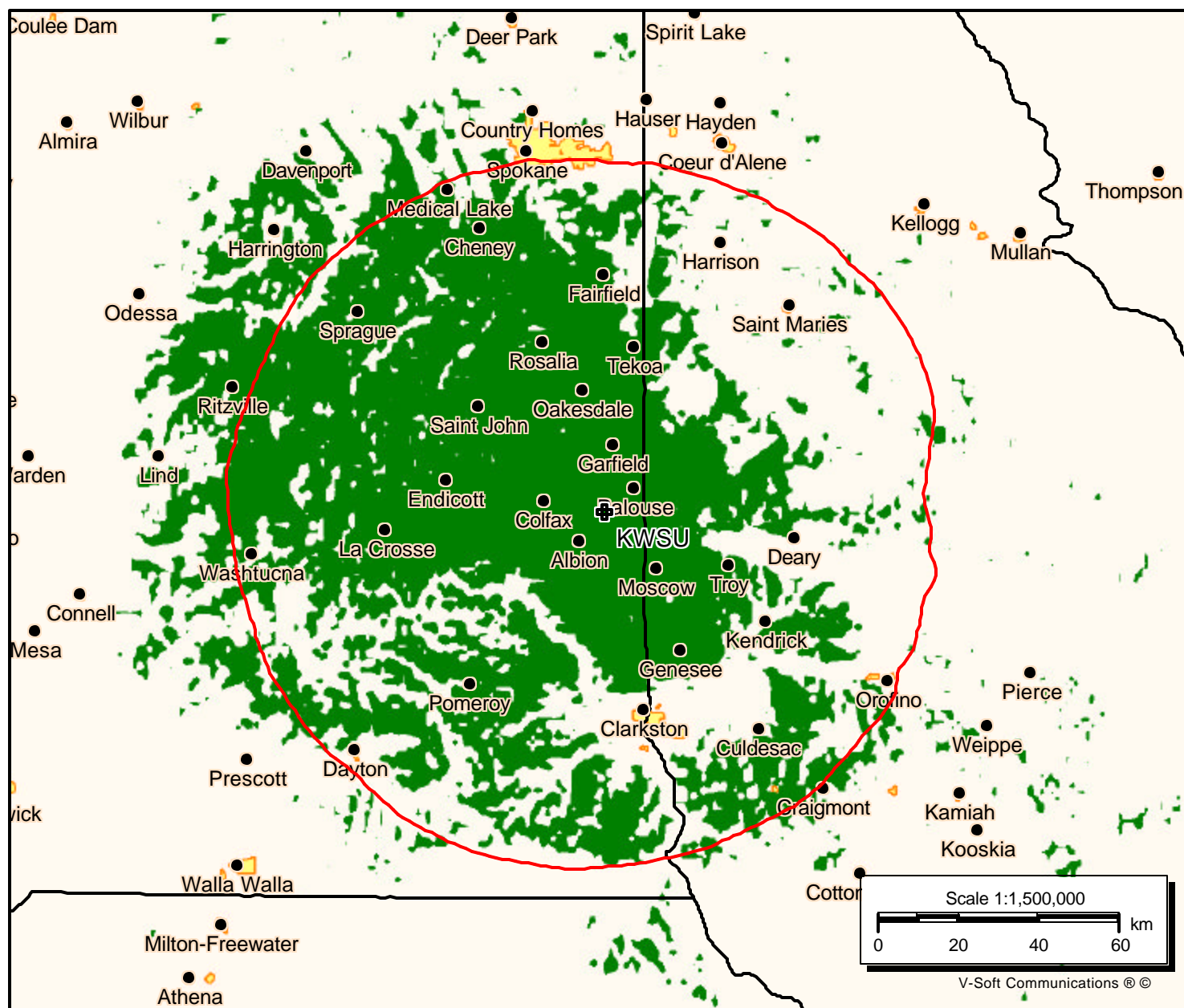
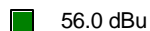


EXHIBIT 14

Summary of population counts

FCC methodology which includes KWX error population:

Population report for KWSU-TV. Field strength above 56.00 db uV/m:

Totals for KWSU-TV (10-)

Calculation Area Population:	440,022 (28121.0 sq. km)
Not Affected by Terrain Loss:	228,408 (25525.7 sq. km)
Total NTSC Interference:	290 (543.2 sq. km)
DTV Only Interference:	0 (7.6 sq. km)
Total DTV Interference:	39 (38.1 sq. km)
Interfered Population:	290 (550.8 sq. km)
Interference Free:	228,118 (24974.8 sq. km)

Percent Interference: 0.13

Terrain Blocked Population:	211,614 (2595.4 sq. km)
KWX Error Region Population	94,536
Contour Area Population:	433,892

Totals for KWSU-DT (17)

Calculation Area Population:	139,756 (13189.0 sq. km)
Not Affected by Terrain Loss:	93,615 (11751.6 sq. km)
Total NTSC Interference:	20 (7.5 sq. km)
DTV Only Interference:	0 (-0.0 sq. km)
Total DTV Interference:	0 (0.0 sq. km)
Interfered Population:	20 (7.5 sq. km)
Interference Free:	93,595 (11744.0 sq. km)
or 41.0% of KWSU analog.	

Percent Interference: 0.02

Terrain Blocked Population:	46,141 (1437.4 sq. km)
KWX Error Region Population:	31,443
Contour Area Population:	139,830

V-Soft Longley-Rice methodology which excludes KWX error population:

Population report for KWSU-TV. Field strength above 56.00 db uV/m:

Total Population:	139,060
Population receiving interference:	230
Total Interference Free Population:	138,830

Population report for KWSU-DT. Field strength above 41.00 db uV/m:

Total DT Population:	110,755
Population receiving interference:	0
Total Interference Free DT Population:	110,403
or 79.5% of KWSU analog.	

Upgraded facilities to reach 80% replication using FCC methodology which includes KWX error population:

KWSU-DT (17)

KWX error points are considered to be interference free coverage.

Calculation Area Population:	252,493 (24237.6 sq. km)
Not Affected by Terrain Loss:	186,403 (22565.2 sq. km)
Total NTSC Interference:	0 (0.0 sq. km)
DTV Only Interference:	0 (0.0 sq. km)
Total DTV Interference:	0 (0.0 sq. km)
Interfered Population:	0 (0.0 sq. km)
Interference Free:	186,403 (22565.2 sq. km)
or 81.2% of KWSU analog.	

Percent Interference: 0.00

Terrain Blocked Population:	66,090 (1672.3 sq. km)
KWX Error Region Population:	52,705
Contour Area Population:	253,127

Upgraded facilities to reach 80% replication using V-Soft methodology which excludes KWX error population:

Total Population:	277,107
Population receiving interference:	0
Total Interference Free DT Population:	277,107
or 199.6% of KWSU analog.	